Enhancing Social Experiences and Interactions through Gamification:

Barmband

Project Report
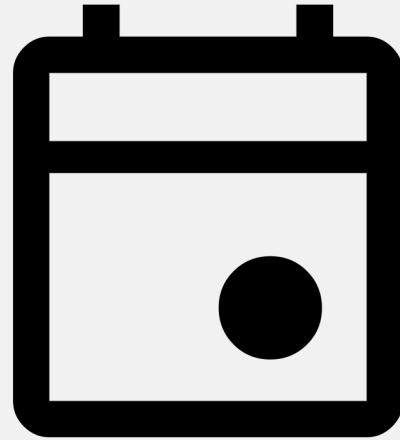
Fabian Wesemann, Florian Arens, Alexander Brandt

Vision

Vision

- Talking to strangers can be hard

- Icebreaker to promote interaction

- Gamification for motivation

- Opt-in

- Scalability
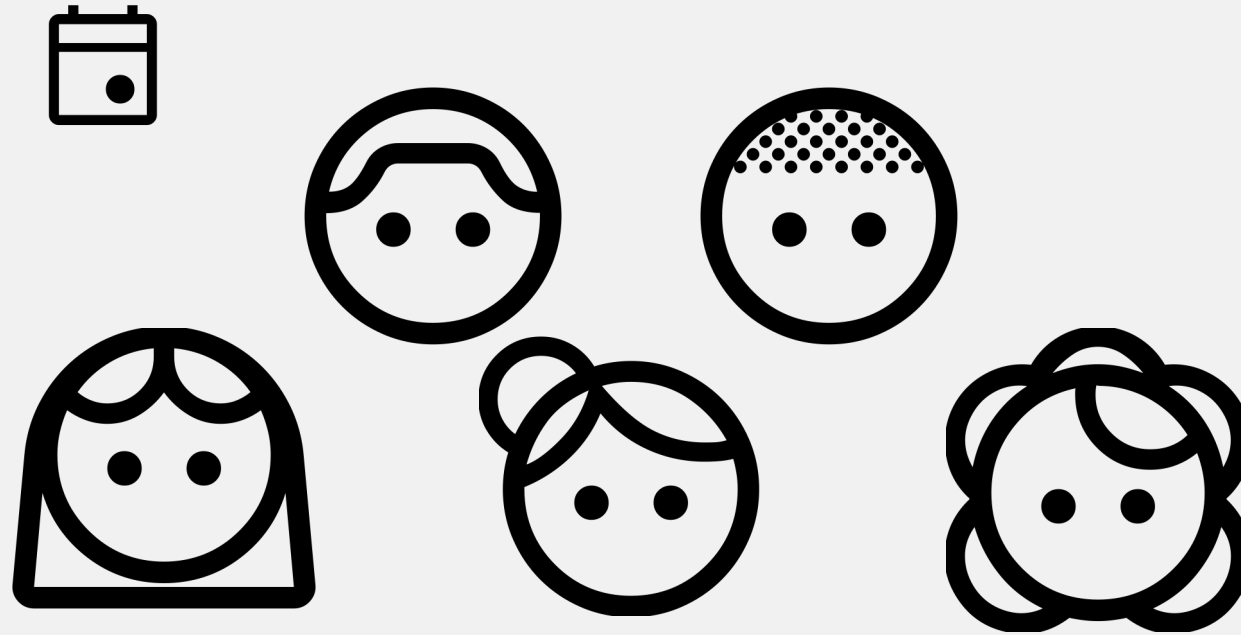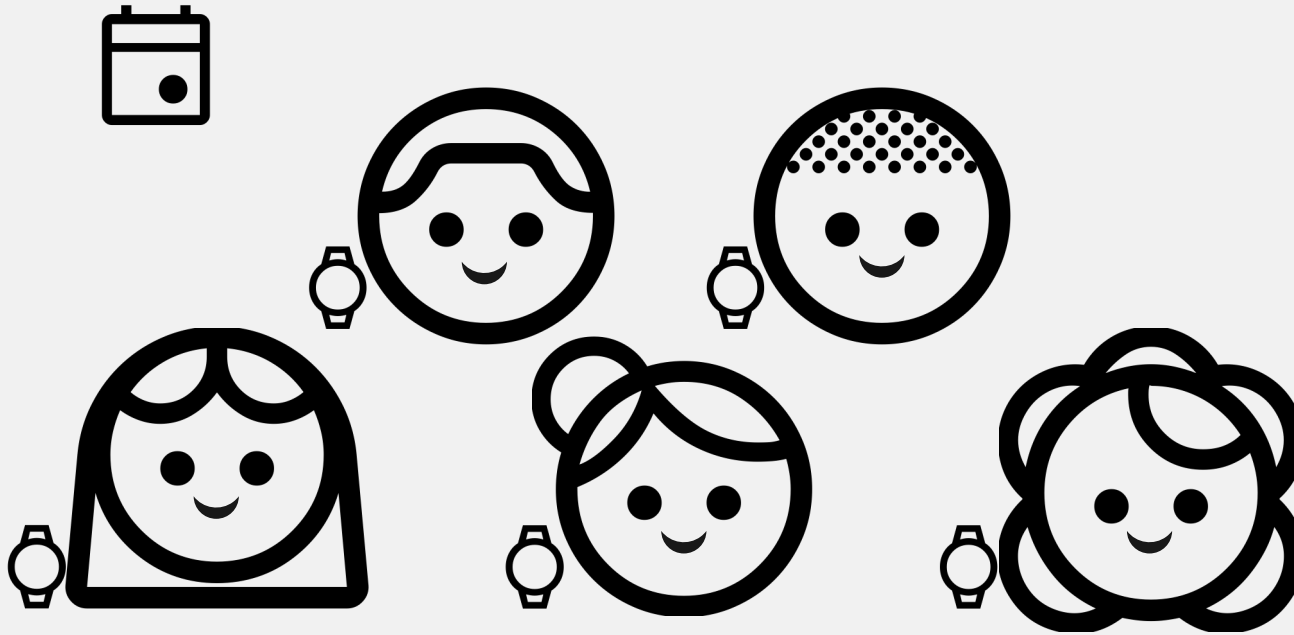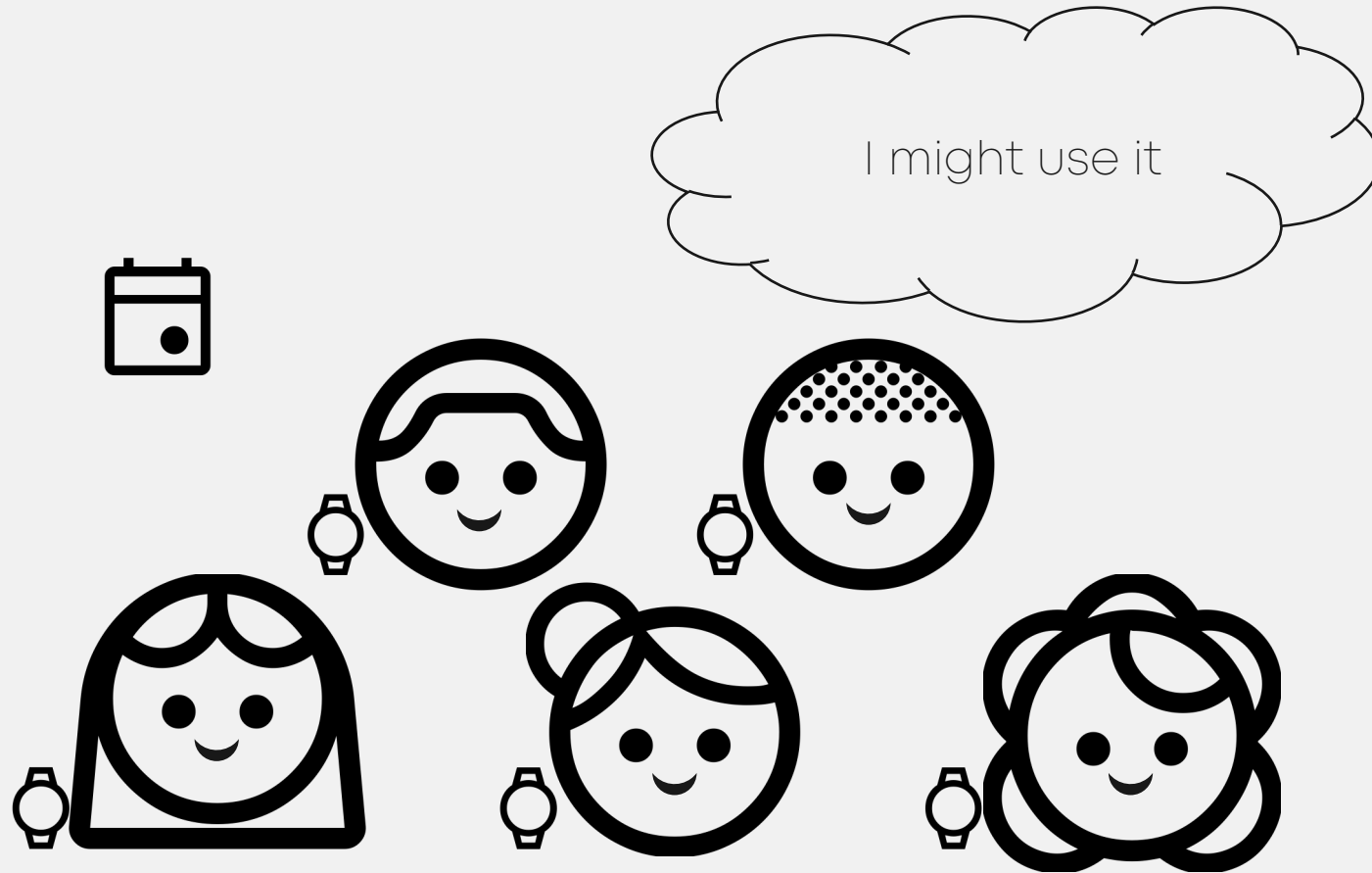
Use Case

Use Case

e.g. first week

Use Case

Use Case

Use Case

I might use it

Infrastructure

Infrastucture

Barmband

- Wearable device
- MCU, LED, Reader, Tag
- Only thing the user interacts with

MQTT

- Communication
- Local Broker

Bandcommand

- Management software
- Handles all logic

Infrastructure

Infrastructure

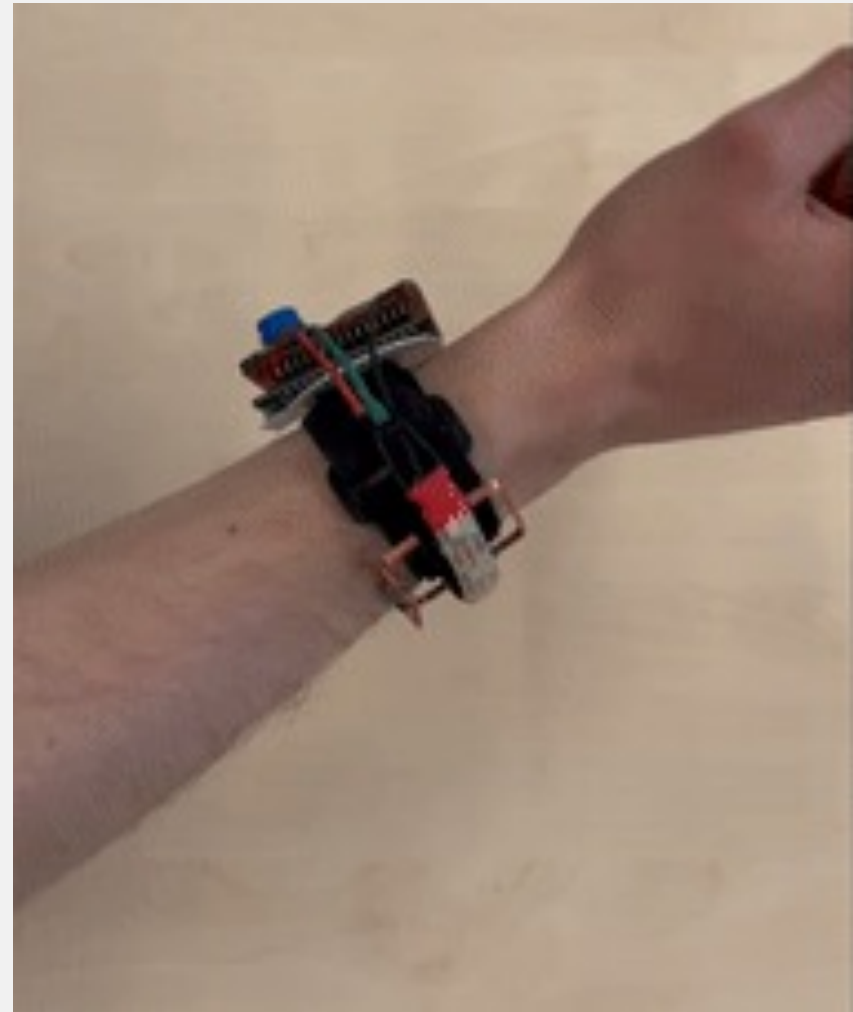Barmband

MQTT

Bandcommand

Barmband

BOM

ESP32

RDM6300

WS2812

Velcro strips

Powerbank

Bandcommand

- Management software written in go

- Implements a MQTT client

- Handles the registration of Barmbands

- Parses MQTT messages

- Informs Barmbands about found pairs

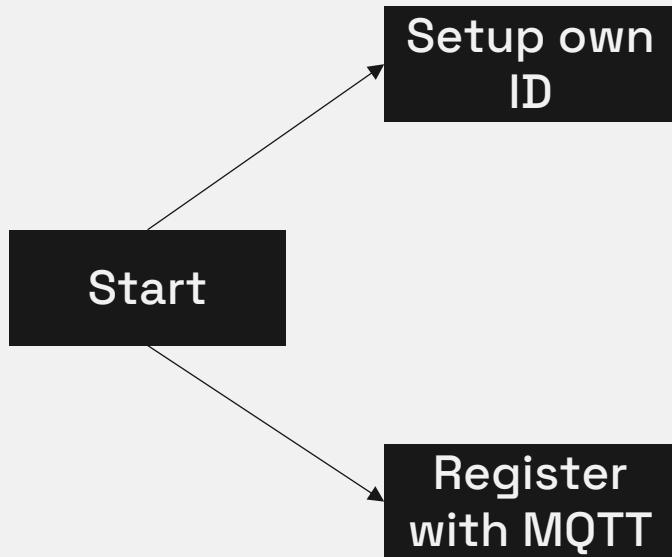- Determines the challenge color of Barmbands

MQTT

- Communication link between Barmband and Bandcommand
- De facto standard for machine-machine communication
- Supports different quality of service levels (QoS)
- Messages are easy to debug
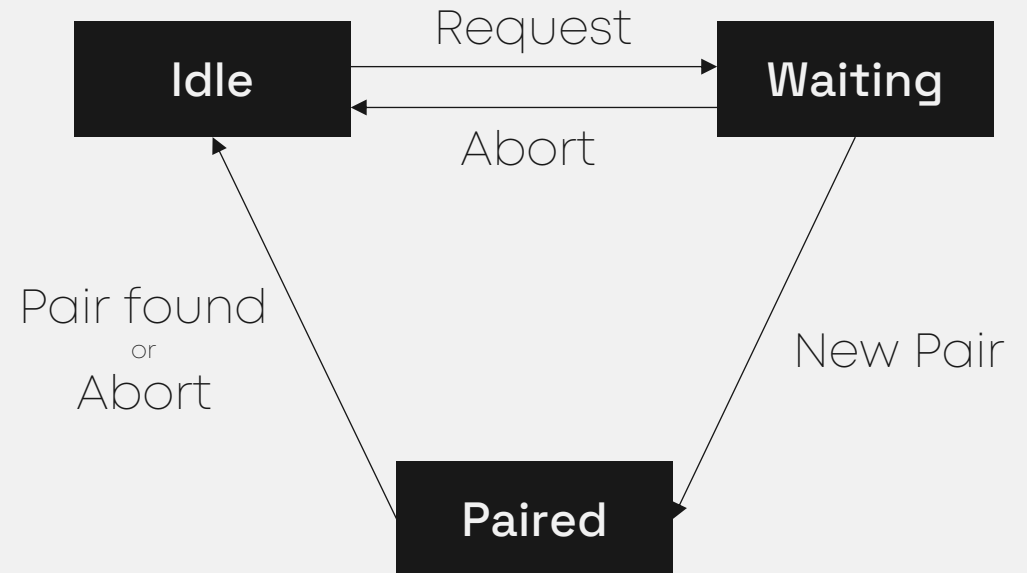- Topics: setup, challenge, logging
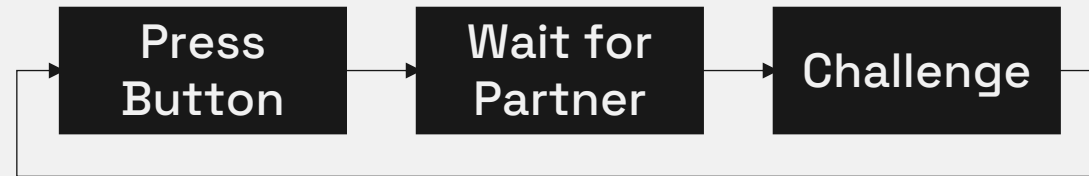
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How it works

How it works

How it works

Preparation

Connect to WLAN

Setup MQTT Broker

Register with MQTT

Barmband

```
Press        Wait for      Challenge
Button  -->  Partner  -->
```

Bandcommand

```
Register new    Draw new      Resolve
Barmbands       pairs         challenges
```

Limitations

Limitations

Form Factor

Fragility

Feedback

Health Checks

Power Source

Next Steps

Next Steps

- Rework RFID setup

- User Tests

- Power Supply

- Form factor

- Better User Feedback

- UI app

- Case

- Authorization